



EQT Production - Marcellus

**Wetzel County, WV
Wetzel County 513920
Well 513920**

Main Wellbore

Design: 513920 As Drilled Surveys

Standard Survey Report

11 May, 2015



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1468.0usft
Project:	Wetzel County, WV	MD Reference:	KB@16 @ 1468.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Project	Wetzel County, WV		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		Using geodetic scale factor

Site	Wetzel County 513920				
Site Position:		Northing:	376,073.40 usft	Latitude:	39.53
From:	Map	Easting:	1,694,783.40 usft	Longitude:	-80.58
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.69 °

Well	Well 513920					
Well Position	+N/-S	0.0 usft	Northing:	376,073.40 usft	Latitude:	39° 31' 38.983 N
	+E/-W	0.0 usft	Easting:	1,694,783.40 usft	Longitude:	80° 34' 55.433 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,452.0 usft

Wellbore	Main Wellbore				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/13/2015	-8.32	67.07	52,545

Design	513920 As Drilled Surveys				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	342.00	

Survey Program	Date	5/11/2015			
From ()	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	5,995.0	513920 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	15,630.0	513920 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	-1,468.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.04	81.78	103.0	-1,365.0	0.0	0.0	0.0	0.04	0.04	0.00
203.0	0.05	313.60	203.0	-1,265.0	0.0	0.0	0.0	0.08	0.01	-128.18
303.0	0.18	255.10	303.0	-1,165.0	0.0	-0.1	0.1	0.16	0.13	-58.50
403.0	0.22	223.00	403.0	-1,065.0	-0.2	-0.4	0.0	0.12	0.04	-32.10
503.0	0.07	224.33	503.0	-965.0	-0.3	-0.6	-0.1	0.15	-0.15	1.33
603.0	0.10	164.75	603.0	-865.0	-0.5	-0.6	-0.2	0.09	0.03	-59.58
703.0	0.08	137.86	703.0	-765.0	-0.6	-0.6	-0.4	0.05	-0.02	-26.89

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Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
803.0	0.09	151.79	803.0	-665.0	-0.7	-0.5	-0.5	0.02	0.01	13.93	
903.0	0.08	332.70	903.0	-565.0	-0.7	-0.5	-0.5	0.17	-0.01	-179.09	
1,003.0	0.22	335.68	1,003.0	-465.0	-0.5	-0.6	-0.3	0.14	0.14	2.98	
1,103.0	0.51	346.09	1,103.0	-365.0	0.1	-0.8	0.3	0.30	0.29	10.41	
1,203.0	0.59	351.03	1,203.0	-265.0	1.1	-0.9	1.3	0.09	0.08	4.94	
1,303.0	0.65	351.05	1,303.0	-165.0	2.1	-1.1	2.4	0.06	0.06	0.02	
1,403.0	0.53	350.81	1,403.0	-65.0	3.1	-1.3	3.4	0.12	-0.12	-0.24	
1,503.0	0.57	3.15	1,503.0	35.0	4.1	-1.3	4.3	0.12	0.04	12.34	
1,603.0	0.59	358.32	1,603.0	135.0	5.1	-1.3	5.3	0.05	0.02	-4.83	
1,703.0	0.56	358.30	1,703.0	235.0	6.1	-1.3	6.2	0.03	-0.03	-0.02	
1,803.0	0.60	9.14	1,803.0	335.0	7.1	-1.3	7.2	0.12	0.04	10.84	
1,903.0	0.69	2.68	1,903.0	435.0	8.2	-1.2	8.2	0.12	0.09	-6.46	
2,003.0	0.53	2.75	2,002.9	534.9	9.3	-1.1	9.2	0.16	-0.16	0.07	
2,103.0	0.52	5.78	2,102.9	634.9	10.2	-1.0	10.0	0.03	-0.01	3.03	
2,203.0	0.61	5.76	2,202.9	734.9	11.2	-0.9	10.9	0.09	0.09	-0.02	
2,303.0	0.81	348.58	2,302.9	834.9	12.4	-1.0	12.1	0.29	0.20	-17.18	
2,403.0	1.24	334.48	2,402.9	934.9	14.1	-1.6	13.9	0.50	0.43	-14.10	
2,503.0	1.81	330.55	2,502.9	1,034.9	16.4	-2.9	16.5	0.58	0.57	-3.93	
2,603.0	2.16	333.58	2,602.8	1,134.8	19.5	-4.5	19.9	0.37	0.35	3.03	
2,703.0	2.35	336.18	2,702.7	1,234.7	23.1	-6.2	23.8	0.22	0.19	2.60	
2,803.0	2.39	335.42	2,802.7	1,334.7	26.8	-7.9	27.9	0.05	0.04	-0.76	
2,903.0	1.90	333.42	2,902.6	1,434.6	30.2	-9.5	31.7	0.50	-0.49	-2.00	
3,003.0	1.42	327.70	3,002.5	1,534.5	32.7	-10.9	34.5	0.51	-0.48	-5.72	
3,103.0	0.94	325.05	3,102.5	1,634.5	34.5	-12.0	36.5	0.48	-0.48	-2.65	
3,203.0	0.80	318.54	3,202.5	1,734.5	35.7	-12.9	37.9	0.17	-0.14	-6.51	
3,303.0	0.49	323.72	3,302.5	1,834.5	36.5	-13.6	39.0	0.32	-0.31	5.18	
3,403.0	0.46	317.44	3,402.5	1,934.5	37.2	-14.2	39.7	0.06	-0.03	-6.28	
3,503.0	0.43	319.58	3,502.5	2,034.5	37.7	-14.7	40.4	0.03	-0.03	2.14	
3,603.0	0.43	325.62	3,602.5	2,134.5	38.3	-15.1	41.1	0.05	0.00	6.04	
3,703.0	0.48	326.95	3,702.5	2,234.5	39.0	-15.6	41.9	0.05	0.05	1.33	
3,803.0	0.47	325.04	3,802.5	2,334.5	39.7	-16.0	42.7	0.02	-0.01	-1.91	
3,903.0	0.49	326.59	3,902.5	2,434.5	40.4	-16.5	43.5	0.02	0.02	1.55	
4,003.0	0.44	319.06	4,002.5	2,534.5	41.0	-17.0	44.3	0.08	-0.05	-7.53	
4,103.0	0.43	320.65	4,102.5	2,634.5	41.6	-17.5	45.0	0.02	-0.01	1.59	
4,203.0	0.31	294.14	4,202.5	2,734.5	42.0	-18.0	45.5	0.21	-0.12	-26.51	
4,303.0	0.32	296.16	4,302.5	2,834.5	42.2	-18.5	45.9	0.01	0.01	2.02	
4,403.0	0.34	294.57	4,402.5	2,934.5	42.5	-19.0	46.3	0.02	0.02	-1.59	
4,503.0	0.44	292.24	4,502.5	3,034.5	42.8	-19.6	46.7	0.10	0.10	-2.33	
4,603.0	0.56	288.73	4,602.5	3,134.5	43.1	-20.4	47.3	0.12	0.12	-3.51	
4,703.0	0.59	288.51	4,702.5	3,234.5	43.4	-21.4	47.9	0.03	0.03	-0.22	
4,803.0	0.65	287.00	4,802.5	3,334.5	43.7	-22.4	48.5	0.06	0.06	-1.51	
4,903.0	0.61	290.81	4,902.5	3,434.5	44.1	-23.5	49.2	0.06	-0.04	3.81	

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Survey										
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5,003.0	0.68	290.96	5,002.4	3,534.4	44.5	-24.5	49.9	0.07	0.07	0.15
5,103.0	0.67	287.12	5,102.4	3,634.4	44.9	-25.6	50.6	0.05	-0.01	-3.84
5,203.0	0.66	286.41	5,202.4	3,734.4	45.2	-26.7	51.2	0.01	-0.01	-0.71
5,303.0	0.70	287.64	5,302.4	3,834.4	45.5	-27.9	51.9	0.04	0.04	1.23
5,403.0	0.74	286.48	5,402.4	3,934.4	45.9	-29.1	52.6	0.04	0.04	-1.16
5,503.0	0.60	299.66	5,502.4	4,034.4	46.3	-30.1	53.4	0.21	-0.14	13.18
5,603.0	0.60	306.86	5,602.4	4,134.4	46.9	-31.0	54.2	0.08	0.00	7.20
5,703.0	0.66	300.07	5,702.4	4,234.4	47.5	-31.9	55.1	0.10	0.06	-6.79
5,803.0	0.76	294.92	5,802.4	4,334.4	48.1	-33.0	55.9	0.12	0.10	-5.15
5,903.0	0.77	296.94	5,902.4	4,434.4	48.7	-34.2	56.9	0.03	0.01	2.02
Gyro Tie In=5995' MD										
5,995.0	0.94	290.82	5,994.4	4,526.4	49.2	-35.5	57.8	0.21	0.18	-6.65
6,014.0	1.10	298.30	6,013.4	4,545.4	49.4	-35.8	58.0	1.09	0.84	39.37
KOP=6046' MD										
6,046.0	1.90	184.90	6,045.4	4,577.4	49.0	-36.1	57.7	7.95	2.50	-354.38
6,078.0	6.40	168.00	6,077.3	4,609.3	46.7	-35.8	55.5	14.42	14.06	-52.81
6,109.0	9.50	163.80	6,108.0	4,640.0	42.6	-34.7	51.2	10.17	10.00	-13.55
6,141.0	11.60	162.40	6,139.4	4,671.4	37.0	-33.0	45.3	6.61	6.56	-4.38
6,172.0	13.80	163.80	6,169.7	4,701.7	30.4	-31.0	38.5	7.17	7.10	4.52
6,204.0	16.70	165.40	6,200.5	4,732.5	22.3	-28.8	30.1	9.16	9.06	5.00
6,235.0	19.40	166.40	6,230.0	4,762.0	13.0	-26.5	20.5	8.77	8.71	3.23
6,267.0	21.60	166.10	6,260.0	4,792.0	2.1	-23.8	9.4	6.88	6.88	-0.94
6,298.0	24.20	166.20	6,288.5	4,820.5	-9.6	-20.9	-2.7	8.39	8.39	0.32
6,330.0	26.90	166.00	6,317.4	4,849.4	-23.0	-17.6	-16.4	8.44	8.44	-0.63
6,361.0	29.90	166.00	6,344.7	4,876.7	-37.3	-14.0	-31.1	9.68	9.68	0.00
6,393.0	32.30	166.00	6,372.1	4,904.1	-53.3	-10.0	-47.6	7.50	7.50	0.00
6,425.0	35.10	166.70	6,398.7	4,930.7	-70.6	-5.9	-65.3	8.83	8.75	2.19
6,456.0	38.20	168.00	6,423.6	4,955.6	-88.6	-1.8	-83.7	10.31	10.00	4.19
6,488.0	39.00	168.80	6,448.6	4,980.6	-108.2	2.2	-103.6	2.95	2.50	2.50
6,519.0	38.80	168.10	6,472.7	5,004.7	-127.3	6.1	-122.9	1.56	-0.65	-2.26
6,551.0	40.00	165.40	6,497.4	5,029.4	-147.0	10.8	-143.2	6.54	3.75	-8.44
6,583.0	42.00	163.80	6,521.6	5,053.6	-167.3	16.3	-164.1	7.06	6.25	-5.00
6,614.0	42.10	163.10	6,544.6	5,076.6	-187.2	22.3	-184.9	1.55	0.32	-2.26
6,645.0	41.20	163.70	6,567.8	5,099.8	-206.9	28.1	-205.5	3.18	-2.90	1.94
6,677.0	40.80	166.60	6,591.9	5,123.9	-227.2	33.5	-226.4	6.08	-1.25	9.06
6,709.0	40.50	169.70	6,616.2	5,148.2	-247.6	37.8	-247.2	6.38	-0.94	9.69
6,740.0	38.90	170.30	6,640.0	5,172.0	-267.1	41.2	-266.8	5.31	-5.16	1.94
6,772.0	36.00	168.90	6,665.4	5,197.4	-286.2	44.7	-286.0	9.44	-9.06	-4.38
6,803.0	32.40	169.00	6,691.1	5,223.1	-303.3	48.1	-303.3	11.61	-11.61	0.32
6,835.0	29.20	169.40	6,718.6	5,250.6	-319.4	51.2	-319.6	10.02	-10.00	1.25
6,866.0	27.00	169.30	6,745.9	5,277.9	-333.8	53.9	-334.1	7.10	-7.10	-0.32
6,898.0	23.80	169.70	6,774.8	5,306.8	-347.3	56.4	-347.7	10.01	-10.00	1.25
6,930.0	20.70	171.90	6,804.4	5,336.4	-359.2	58.3	-359.7	10.03	-9.69	6.88

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6,961.0	18.20	171.80	6,833.6	5,365.6	-369.4	59.8	-369.8	8.07	-8.06	-0.32
6,993.0	15.90	173.90	6,864.2	5,396.2	-378.7	61.0	-379.0	7.44	-7.19	6.56
7,024.0	13.70	179.30	6,894.2	5,426.2	-386.6	61.4	-386.7	8.37	-7.10	17.42
7,056.0	11.40	187.50	6,925.4	5,457.4	-393.6	61.1	-393.2	9.08	-7.19	25.63
7,087.0	9.70	198.40	6,955.9	5,487.9	-399.1	59.9	-398.0	8.43	-5.48	35.16
7,119.0	8.40	213.90	6,987.5	5,519.5	-403.6	57.7	-401.7	8.60	-4.06	48.44
7,151.0	8.20	236.80	7,019.2	5,551.2	-406.8	54.5	-403.7	10.28	-0.63	71.56
7,182.0	9.10	259.80	7,049.9	5,581.9	-408.4	50.2	-403.9	11.44	2.90	74.19
7,214.0	11.70	275.60	7,081.3	5,613.3	-408.5	44.5	-402.3	11.99	8.13	49.38
7,245.0	12.50	293.10	7,111.7	5,643.7	-406.9	38.3	-398.8	12.06	2.58	56.45
7,277.0	12.60	310.60	7,142.9	5,674.9	-403.3	32.4	-393.6	11.84	0.31	54.69
7,308.0	15.30	315.10	7,173.0	5,705.0	-398.2	27.0	-387.0	9.38	8.71	14.52
7,340.0	19.00	316.70	7,203.6	5,735.6	-391.4	20.4	-378.6	11.66	11.56	5.00
7,372.0	20.80	325.00	7,233.7	5,765.7	-383.0	13.6	-368.4	10.46	5.63	25.94
7,403.0	22.10	327.80	7,262.5	5,794.5	-373.5	7.3	-357.5	5.34	4.19	9.03
7,435.0	24.60	328.70	7,291.9	5,823.9	-362.7	0.7	-345.2	7.89	7.81	2.81
7,466.0	27.60	328.50	7,319.7	5,851.7	-351.1	-6.4	-331.9	9.68	9.68	-0.65
7,498.0	30.20	329.70	7,347.7	5,879.7	-337.8	-14.4	-316.8	8.32	8.13	3.75
7,530.0	31.70	331.90	7,375.2	5,907.2	-323.5	-22.4	-300.7	5.87	4.69	6.88
7,561.0	34.00	334.40	7,401.2	5,933.2	-308.5	-30.0	-284.1	8.61	7.42	8.06
7,593.0	36.50	335.50	7,427.3	5,959.3	-291.7	-37.8	-265.8	8.06	7.81	3.44
7,624.0	40.30	336.40	7,451.6	5,983.6	-274.1	-45.6	-246.6	12.39	12.26	2.90
7,656.0	43.20	336.70	7,475.5	6,007.5	-254.6	-54.1	-225.4	9.08	9.06	0.94
7,687.0	46.70	337.30	7,497.4	6,029.4	-234.4	-62.7	-203.6	11.37	11.29	1.94
7,719.0	49.60	338.70	7,518.8	6,050.8	-212.3	-71.6	-179.8	9.63	9.06	4.38
7,750.0	53.20	339.40	7,538.1	6,070.1	-189.7	-80.2	-155.6	11.75	11.61	2.26
7,782.0	56.60	340.00	7,556.5	6,088.5	-165.2	-89.3	-129.5	10.74	10.63	1.88
7,814.0	60.30	341.20	7,573.3	6,105.3	-139.4	-98.4	-102.2	12.00	11.56	3.75
7,845.0	63.20	342.90	7,587.9	6,119.9	-113.5	-106.8	-74.9	10.53	9.35	5.48
7,877.0	66.00	344.30	7,601.7	6,133.7	-85.7	-114.9	-46.0	9.60	8.75	4.38
7,908.0	68.90	344.70	7,613.6	6,145.6	-58.1	-122.6	-17.4	9.43	9.35	1.29
7,939.0	72.30	344.60	7,623.9	6,155.9	-30.0	-130.3	11.8	10.97	10.97	-0.32
7,971.0	75.30	344.30	7,632.8	6,164.8	-0.4	-138.6	42.5	9.42	9.38	-0.94
8,003.0	77.50	343.60	7,640.3	6,172.3	29.5	-147.2	73.6	7.20	6.88	-2.19
8,034.0	80.40	342.70	7,646.2	6,178.2	58.6	-156.0	104.0	9.78	9.35	-2.90
8,066.0	85.20	342.70	7,650.3	6,182.3	89.0	-165.4	135.7	15.00	15.00	0.00
LP=8097' MD/ 7652' TVD										
8,097.0	89.00	343.00	7,651.8	6,183.8	118.5	-174.5	166.7	12.30	12.26	0.97
8,150.0	89.60	342.40	7,652.5	6,184.5	169.1	-190.3	219.7	1.60	1.13	-1.13
8,214.0	89.30	341.00	7,653.1	6,185.1	229.9	-210.4	283.7	2.24	-0.47	-2.19
8,276.0	89.40	341.70	7,653.8	6,185.8	288.6	-230.2	345.7	1.14	0.16	1.13
Deepest Point of Well=8340' MD/ 7654' TVD										
8,340.0	90.40	342.30	7,653.9	6,185.9	349.5	-250.0	409.6	1.82	1.56	0.94

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103.03043

PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1468.0usft
Project:	Wetzel County, WV	MD Reference:	KB@16 @ 1468.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,403.0	91.30	341.70	7,653.0	6,185.0	409.4	-269.5	472.6	1.72	1.43	-0.95
8,466.0	91.70	341.20	7,651.3	6,183.3	469.1	-289.5	535.6	1.02	0.63	-0.79
8,529.0	91.80	341.70	7,649.4	6,181.4	528.8	-309.5	598.6	0.81	0.16	0.79
8,592.0	91.50	343.70	7,647.6	6,179.6	588.9	-328.3	661.6	3.21	-0.48	3.17
8,655.0	91.40	343.60	7,646.0	6,178.0	649.4	-346.0	724.5	0.22	-0.16	-0.16
8,719.0	90.60	344.20	7,644.9	6,176.9	710.8	-363.7	788.5	1.56	-1.25	0.94
8,782.0	90.20	345.00	7,644.4	6,176.4	771.6	-380.5	851.4	1.42	-0.63	1.27
8,845.0	90.10	343.80	7,644.3	6,176.3	832.3	-397.4	914.3	1.91	-0.16	-1.90
8,908.0	90.10	343.50	7,644.1	6,176.1	892.7	-415.1	977.3	0.48	0.00	-0.48
8,971.0	90.00	343.00	7,644.1	6,176.1	953.0	-433.3	1,040.3	0.81	-0.16	-0.79
9,034.0	89.90	342.10	7,644.1	6,176.1	1,013.1	-452.2	1,103.3	1.44	-0.16	-1.43
9,097.0	90.80	343.60	7,643.8	6,175.8	1,073.3	-470.8	1,166.3	2.78	1.43	2.38
9,160.0	91.20	344.00	7,642.7	6,174.7	1,133.8	-488.3	1,229.2	0.90	0.63	0.63
9,223.0	91.00	342.40	7,641.5	6,173.5	1,194.1	-506.5	1,292.2	2.56	-0.32	-2.54
9,287.0	90.40	342.80	7,640.7	6,172.7	1,255.2	-525.7	1,356.2	1.13	-0.94	0.63
9,349.0	90.30	343.20	7,640.3	6,172.3	1,314.5	-543.8	1,418.2	0.67	-0.16	0.65
9,413.0	90.10	342.30	7,640.1	6,172.1	1,375.6	-562.8	1,482.2	1.44	-0.31	-1.41
9,476.0	89.80	342.60	7,640.1	6,172.1	1,435.7	-581.8	1,545.2	0.67	-0.48	0.48
9,539.0	89.50	341.70	7,640.5	6,172.5	1,495.6	-601.1	1,608.2	1.51	-0.48	-1.43
9,602.0	90.50	342.80	7,640.5	6,172.5	1,555.6	-620.3	1,671.2	2.36	1.59	1.75
9,665.0	90.90	343.80	7,639.7	6,171.7	1,616.0	-638.4	1,734.2	1.71	0.63	1.59
9,728.0	91.00	343.80	7,638.7	6,170.7	1,676.5	-656.0	1,797.1	0.16	0.16	0.00
9,791.0	90.60	343.40	7,637.8	6,169.8	1,736.9	-673.8	1,860.1	0.90	-0.63	-0.63
9,854.0	90.40	343.30	7,637.3	6,169.3	1,797.2	-691.8	1,923.1	0.35	-0.32	-0.16
9,917.0	90.30	343.10	7,636.9	6,168.9	1,857.5	-710.0	1,986.0	0.35	-0.16	-0.32
9,980.0	89.90	342.30	7,636.8	6,168.8	1,917.7	-728.8	2,049.0	1.42	-0.63	-1.27
10,043.0	89.50	341.40	7,637.1	6,169.1	1,977.6	-748.4	2,112.0	1.56	-0.63	-1.43
10,106.0	89.60	341.50	7,637.6	6,169.6	2,037.3	-768.4	2,175.0	0.22	0.16	0.16
10,169.0	90.10	341.00	7,637.8	6,169.8	2,096.9	-788.7	2,238.0	1.12	0.79	-0.79
10,232.0	91.20	342.90	7,637.0	6,169.0	2,156.8	-808.2	2,301.0	3.48	1.75	3.02
10,296.0	91.70	343.60	7,635.4	6,167.4	2,218.1	-826.6	2,365.0	1.34	0.78	1.09
10,358.0	91.80	344.80	7,633.5	6,165.5	2,277.7	-843.5	2,426.9	1.94	0.16	1.94
10,421.0	90.50	344.90	7,632.3	6,164.3	2,338.5	-860.0	2,489.8	2.07	-2.06	0.16
10,484.0	90.10	344.20	7,631.9	6,163.9	2,399.2	-876.7	2,552.8	1.28	-0.63	-1.11
10,548.0	89.90	344.00	7,631.9	6,163.9	2,460.8	-894.3	2,616.7	0.44	-0.31	-0.31
10,611.0	89.70	343.70	7,632.2	6,164.2	2,521.3	-911.8	2,679.7	0.57	-0.32	-0.48
10,674.0	89.30	343.80	7,632.7	6,164.7	2,581.8	-929.4	2,742.6	0.65	-0.63	-0.16
10,737.0	88.90	343.30	7,633.7	6,165.7	2,642.2	-947.3	2,805.6	1.02	-0.63	-0.79
10,800.0	89.50	344.20	7,634.6	6,166.6	2,702.7	-964.9	2,868.6	1.72	0.95	1.43
10,863.0	90.00	344.60	7,634.9	6,166.9	2,763.4	-981.8	2,931.5	1.02	0.79	0.63
10,926.0	89.90	343.00	7,634.9	6,166.9	2,823.9	-999.4	2,994.5	2.54	-0.16	-2.54
10,990.0	89.80	342.10	7,635.1	6,167.1	2,884.9	-1,018.6	3,058.5	1.41	-0.16	-1.41
11,053.0	90.60	342.10	7,634.9	6,166.9	2,944.9	-1,038.0	3,121.5	1.27	1.27	0.00

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1468.0usft
Project:	Wetzel County, WV	MD Reference:	KB@16 @ 1468.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,116.0	91.40	341.80	7,633.8	6,165.8	3,004.8	-1,057.5	3,184.5	1.36	1.27	-0.48
11,179.0	91.20	342.00	7,632.3	6,164.3	3,064.6	-1,077.1	3,247.5	0.45	-0.32	0.32
11,243.0	90.70	341.60	7,631.3	6,163.3	3,125.4	-1,097.0	3,311.4	1.00	-0.78	-0.63
11,306.0	90.40	341.50	7,630.7	6,162.7	3,185.2	-1,117.0	3,374.4	0.50	-0.48	-0.16
11,369.0	90.00	342.00	7,630.4	6,162.4	3,245.0	-1,136.7	3,437.4	1.02	-0.63	0.79
11,432.0	89.70	341.20	7,630.6	6,162.6	3,304.8	-1,156.6	3,500.4	1.36	-0.48	-1.27
11,495.0	90.90	342.30	7,630.3	6,162.3	3,364.6	-1,176.3	3,563.4	2.58	1.90	1.75
11,558.0	91.20	343.00	7,629.1	6,161.1	3,424.7	-1,195.1	3,626.4	1.21	0.48	1.11
11,621.0	91.00	343.10	7,627.9	6,159.9	3,485.0	-1,213.5	3,689.4	0.35	-0.32	0.16
11,684.0	90.60	342.90	7,627.0	6,159.0	3,545.2	-1,231.9	3,752.4	0.71	-0.63	-0.32
11,747.0	90.30	342.30	7,626.5	6,158.5	3,605.3	-1,250.7	3,815.4	1.06	-0.48	-0.95
11,810.0	90.10	342.10	7,626.3	6,158.3	3,665.3	-1,270.0	3,878.4	0.45	-0.32	-0.32
11,873.0	89.40	343.10	7,626.6	6,158.6	3,725.4	-1,288.8	3,941.4	1.94	-1.11	1.59
11,936.0	89.70	343.30	7,627.1	6,159.1	3,785.7	-1,307.0	4,004.4	0.57	0.48	0.32
12,000.0	89.20	342.70	7,627.7	6,159.7	3,846.9	-1,325.7	4,068.3	1.22	-0.78	-0.94
12,063.0	90.40	344.10	7,627.9	6,159.9	3,907.3	-1,343.7	4,131.3	2.93	1.90	2.22
12,125.0	91.10	344.30	7,627.1	6,159.1	3,967.0	-1,360.6	4,193.3	1.17	1.13	0.32
12,188.0	91.00	343.60	7,626.0	6,158.0	4,027.5	-1,378.0	4,256.2	1.12	-0.16	-1.11
12,251.0	91.40	342.60	7,624.6	6,156.6	4,087.8	-1,396.3	4,319.2	1.71	0.63	-1.59
12,315.0	91.60	341.20	7,623.0	6,155.0	4,148.6	-1,416.2	4,383.2	2.21	0.31	-2.19
12,378.0	91.80	342.50	7,621.1	6,153.1	4,208.4	-1,435.8	4,446.1	2.09	0.32	2.06
12,441.0	91.60	342.40	7,619.2	6,151.2	4,268.5	-1,454.8	4,509.1	0.35	-0.32	-0.16
12,504.0	90.20	343.60	7,618.2	6,150.2	4,328.7	-1,473.2	4,572.1	2.93	-2.22	1.90
12,567.0	90.20	343.60	7,618.0	6,150.0	4,389.1	-1,491.0	4,635.1	0.00	0.00	0.00
12,630.0	90.30	342.60	7,617.7	6,149.7	4,449.4	-1,509.3	4,698.1	1.60	0.16	-1.59
12,693.0	90.60	343.20	7,617.2	6,149.2	4,509.6	-1,527.9	4,761.0	1.06	0.48	0.95
12,756.0	90.40	344.00	7,616.7	6,148.7	4,570.1	-1,545.6	4,824.0	1.31	-0.32	1.27
12,819.0	90.40	344.20	7,616.3	6,148.3	4,630.6	-1,562.9	4,887.0	0.32	0.00	0.32
12,883.0	90.20	342.90	7,615.9	6,147.9	4,692.0	-1,581.0	4,950.9	2.06	-0.31	-2.03
12,946.0	90.20	343.50	7,615.7	6,147.7	4,752.3	-1,599.2	5,013.9	0.95	0.00	0.95
13,009.0	89.90	342.40	7,615.6	6,147.6	4,812.6	-1,617.7	5,076.9	1.81	-0.48	-1.75
13,073.0	90.20	343.30	7,615.6	6,147.6	4,873.7	-1,636.6	5,140.9	1.48	0.47	1.41
13,137.0	90.20	343.10	7,615.4	6,147.4	4,935.0	-1,655.1	5,204.9	0.31	0.00	-0.31
13,200.0	89.90	341.80	7,615.3	6,147.3	4,995.0	-1,674.1	5,267.9	2.12	-0.48	-2.06
13,264.0	89.90	341.60	7,615.4	6,147.4	5,055.8	-1,694.2	5,331.9	0.31	0.00	-0.31
13,327.0	90.00	342.60	7,615.5	6,147.5	5,115.8	-1,713.5	5,394.9	1.60	0.16	1.59
13,391.0	90.10	343.40	7,615.4	6,147.4	5,177.0	-1,732.2	5,458.9	1.26	0.16	1.25
13,454.0	90.10	342.60	7,615.3	6,147.3	5,237.2	-1,750.7	5,521.9	1.27	0.00	-1.27
13,518.0	91.20	344.20	7,614.6	6,146.6	5,298.5	-1,768.9	5,585.8	3.03	1.72	2.50
13,581.0	91.80	343.90	7,612.9	6,144.9	5,359.1	-1,786.3	5,648.8	1.06	0.95	-0.48
13,645.0	92.10	344.00	7,610.8	6,142.8	5,420.6	-1,803.9	5,712.7	0.49	0.47	0.16
13,708.0	90.90	343.20	7,609.1	6,141.1	5,481.0	-1,821.7	5,775.7	2.29	-1.90	-1.27

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Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
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Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,772.0	89.90	341.30	7,608.7	6,140.7	5,541.9	-1,841.2	5,839.7	3.35	-1.56	-2.97
13,835.0	90.10	341.70	7,608.7	6,140.7	5,601.7	-1,861.2	5,902.7	0.71	0.32	0.63
13,899.0	90.80	343.10	7,608.2	6,140.2	5,662.7	-1,880.6	5,966.6	2.45	1.09	2.19
13,962.0	91.20	343.20	7,607.1	6,139.1	5,723.0	-1,898.8	6,029.6	0.65	0.63	0.16
14,026.0	91.00	343.10	7,605.8	6,137.8	5,784.2	-1,917.4	6,093.6	0.35	-0.31	-0.16
14,089.0	91.30	344.30	7,604.6	6,136.6	5,844.6	-1,935.1	6,156.6	1.96	0.48	1.90
14,152.0	91.50	345.60	7,603.0	6,135.0	5,905.5	-1,951.4	6,219.5	2.09	0.32	2.06
14,216.0	90.40	344.70	7,602.0	6,134.0	5,967.3	-1,967.8	6,283.3	2.22	-1.72	-1.41
14,279.0	89.90	344.30	7,601.8	6,133.8	6,028.0	-1,984.6	6,346.3	1.02	-0.79	-0.63
14,343.0	89.20	344.60	7,602.3	6,134.3	6,089.7	-2,001.8	6,410.2	1.19	-1.09	0.47
14,406.0	89.10	344.50	7,603.2	6,135.2	6,150.4	-2,018.6	6,473.2	0.22	-0.16	-0.16
14,470.0	90.30	344.60	7,603.6	6,135.6	6,212.1	-2,035.6	6,537.1	1.88	1.88	0.16
14,533.0	91.30	344.50	7,602.7	6,134.7	6,272.8	-2,052.4	6,600.0	1.60	1.59	-0.16
14,596.0	90.60	344.10	7,601.7	6,133.7	6,333.4	-2,069.5	6,663.0	1.28	-1.11	-0.63
14,660.0	90.80	343.00	7,600.9	6,132.9	6,394.8	-2,087.6	6,726.9	1.75	0.31	-1.72
14,723.0	90.60	341.60	7,600.1	6,132.1	6,454.8	-2,106.7	6,789.9	2.24	-0.32	-2.22
14,786.0	90.40	340.40	7,599.5	6,131.5	6,514.4	-2,127.2	6,852.9	1.93	-0.32	-1.90
14,849.0	90.30	340.60	7,599.2	6,131.2	6,573.8	-2,148.3	6,915.9	0.35	-0.16	0.32
14,912.0	90.60	342.10	7,598.7	6,130.7	6,633.5	-2,168.4	6,978.9	2.43	0.48	2.38
14,975.0	90.60	341.70	7,598.0	6,130.0	6,693.3	-2,188.0	7,041.9	0.63	0.00	-0.63
15,038.0	91.00	341.90	7,597.1	6,129.1	6,753.2	-2,207.7	7,104.9	0.71	0.63	0.32
15,101.0	91.40	342.00	7,595.8	6,127.8	6,813.1	-2,227.2	7,167.9	0.65	0.63	0.16
15,165.0	90.10	341.40	7,595.0	6,127.0	6,873.8	-2,247.3	7,231.8	2.24	-2.03	-0.94
15,228.0	89.70	342.20	7,595.1	6,127.1	6,933.7	-2,266.9	7,294.8	1.42	-0.63	1.27
15,291.0	89.90	341.60	7,595.3	6,127.3	6,993.6	-2,286.5	7,357.8	1.00	0.32	-0.95
15,354.0	90.20	342.10	7,595.2	6,127.2	7,053.4	-2,306.1	7,420.8	0.93	0.48	0.79
15,417.0	90.50	343.10	7,594.9	6,126.9	7,113.5	-2,325.0	7,483.8	1.66	0.48	1.59
15,480.0	90.60	343.60	7,594.3	6,126.3	7,173.9	-2,343.0	7,546.8	0.81	0.16	0.79
15,543.0	91.30	343.70	7,593.2	6,125.2	7,234.3	-2,360.8	7,609.8	1.12	1.11	0.16
Final Survey=15572' MD/7593' TVD										
15,572.0	91.60	343.60	7,592.5	6,124.5	7,262.2	-2,368.9	7,638.8	1.09	1.03	-0.34
Projection to TD=15630' MD/7591' TVD										
15,630.0	91.60	343.60	7,590.9	6,122.9	7,317.8	-2,385.3	7,696.7	0.00	0.00	0.00

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1468.0usft
Project:	Wetzel County, WV	MD Reference:	KB@16 @ 1468.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,995.0	5,994.4	49.2	-35.5	Gyro Tie In=5995' MD
6,046.0	6,045.4	49.0	-36.1	KOP=6046' MD
8,097.0	7,651.8	118.5	-174.5	LP=8097' MD/ 7652' TVD
8,340.0	7,653.9	349.5	-250.0	Deepest Point of WELL=8340' MD/ 7654' TVD
15,572.0	7,592.5	7,262.2	-2,368.9	Final Survey=15572' MD/7593' TVD
15,630.0	7,590.9	7,317.8	-2,385.3	Projection to TD=15630' MD/ 7591' TVD

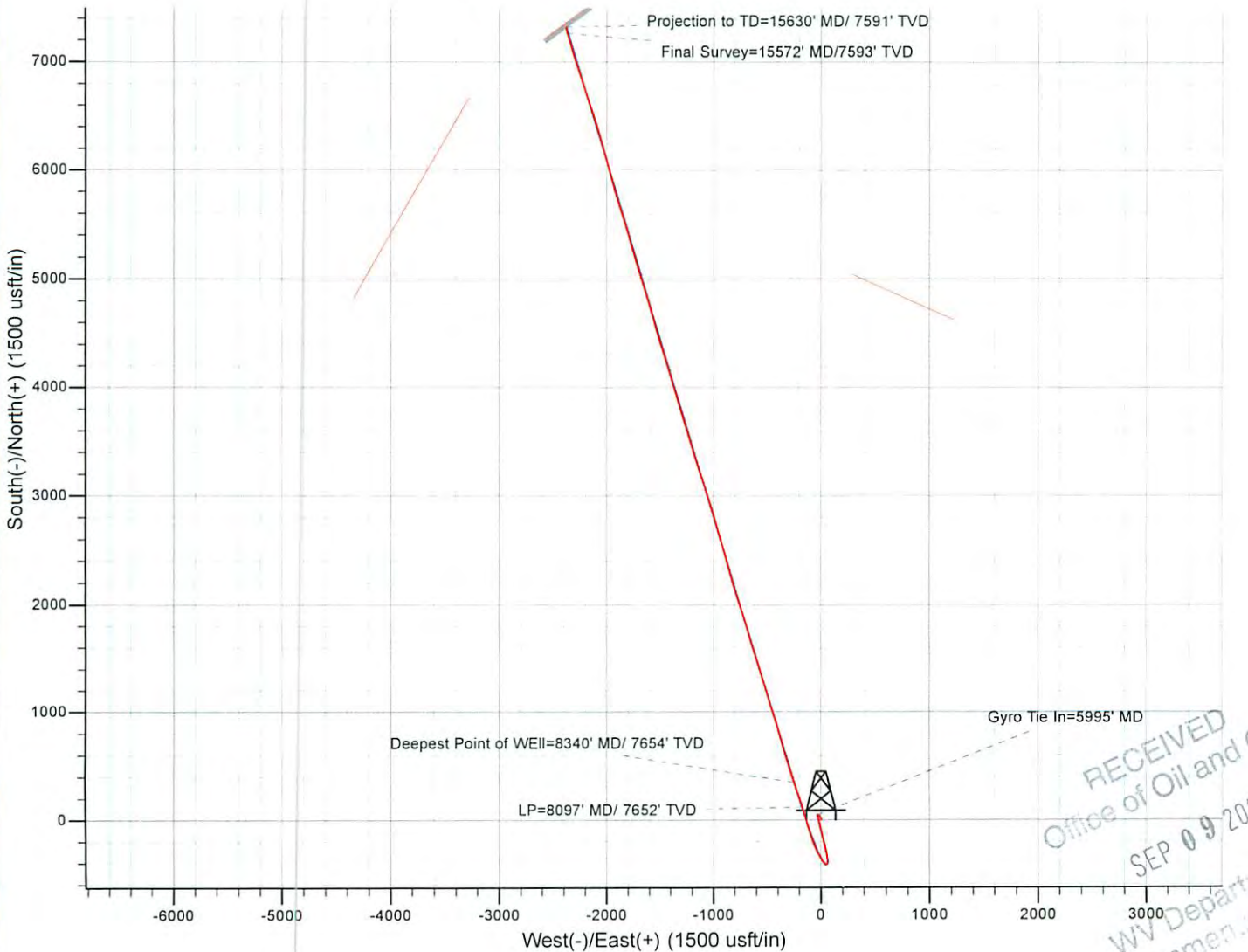
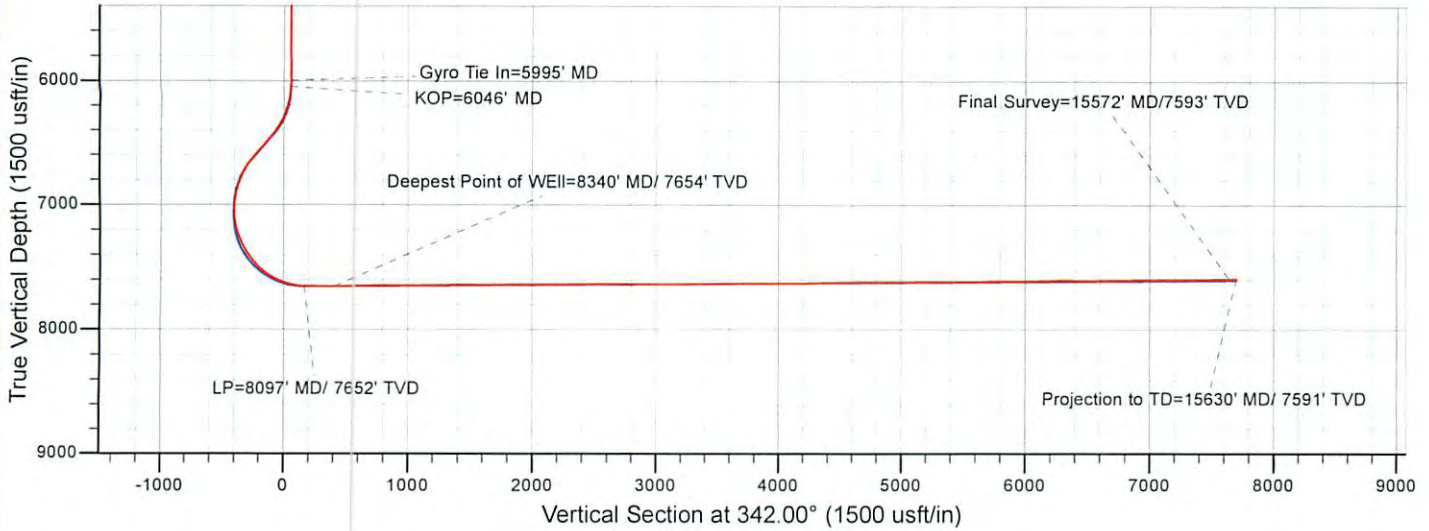
Checked By: _____ Approved By: _____ Date: _____

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EQT Production - Marcellus

Project: Wetzel County, WV
 Site: Wetzel County 513920
 Well: Well 513920
 Wellbore: Main Wellbore
 Design: 513920 As Drilled Surveys



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